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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/961,081	09/21/2001	Yoram Ofek	SYN 1776	6753

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EXAMINER
CHANG, RICHARD

ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/961,081	OFEK ET AL.	
	Examiner	Art Unit	
	Richard Chang	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 January 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-10,12,13,17-21,23-27,29,31,33-43,45-56 and 58-62* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-10,12-13,17-21,23-27,29,31,33-43,45-56 and 58-62* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 January 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's arguments and amendments, filed on 1/6/2006, with respect to claims 1-62 have been fully considered but are moot in view of the new ground(s) of rejection.

Claims 2-3, 11, 14-16, 22, 28, 30, 32, 44, 57 had been canceled.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 4-10, 12-13, 17-21, 23-27, 29, 31, 33-43, 45-56 and 58-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent No. 6,498,794 B1 ("Tsukamoto et al.") in view of US patent 6,496,519 B1 ("Russell et al.") and further in view of US patent 6,608,844 B1 ("Teodorescu et al.").

Regarding claims 1, 21, 27, 43 and 54, Tsukamoto et al. teach a transmitter equipped with a cell switching function, covering rate from DS1 to OC-48, adapted for mapping of synchronous frames containing a plurality of input channels (3), and at least one output channel (5) (See Fig. 1) comprising:

a Common Time Reference (Synchronous frame), divided into a plurality of contiguous time frames (cell), wherein the time frames (cells) have a plurality of predefined time durations (period) and mapping positions of the individual multiplexed channel are predetermined,

means (4) for mapping into each of the time frames (cells) for each of the output channels (5), from a respective subset of the time frames for respective ones of the input channels (3), where Input and output channels are connected via adaptive OC-n interface to support aggregated speed (See Fig. 1, Col. 5, lines 16-35), and

a demapping method of synchronous frames applicable to a plurality of output channels (11), and at least one input channel (7) comprising:

providing a Common Time Reference (Synchronous frame), dividing the CTR into a plurality of contiguous time frames (cell), wherein the time frames (cell) have a plurality of predefined time durations, and

mapping (8) for each respective one of the time frames from the respective input channel (7) to at least one time frame of at least one of the output channels (11) (See Fig. 2, Col. 5, lines 37-55).

Tsukamoto et al. teaches substantially all the claimed invention but did not disclose expressly the particular application involving limitations of

"each of the input channels has a plurality of channel bit rates and the time frames for each of the output channels and input channels are grouped according to a respective common cycle; wherein each of the common cycles is associated with respective ones of the channels".

Russell et al. teaches a frame based data transmission over a synchronous digital loop where the output channels from a first plurality of the subsystems (1005-1029) are coupled to the input channels of a first separate one of the subsystems (1044), to provide a first output and the output channels from a second plurality of the subsystems are coupled to the input channels of a second separate one of the subsystems, to provide a second output, wherein the system is further comprised of a third subsystem, wherein the first and second outputs are coupled to the input channels of the third subsystem (1077) (See Fig. 10, Col. 9, lines 47-63).

A person of ordinary skill in the art would have been motivated to employ Russell et al. in Tsukamoto et al. in order to obtain a cell switching function adapted for mapping of synchronous frames containing a plurality of input channels and one output channel and to take advantage of synchronous multiplexing with a frame based data transmission over a synchronous digital loop in claims 1, 21, 27, 43 and 54.

The suggestion/motivation to do so would have been to take advantage of synchronous multiplexing with a frame based data transmission over a synchronous digital loop, as suggested by Russell et al. in Col. 9, lines 47-63. At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine Russell et al. with the Tsukamoto et al. to obtain the inventions specified in claims 1, 21, 27, 43 and 54.

Tsukamoto et al. and Russell et al. teach substantially all the claimed invention but did not disclose expressly the particular application involving limitations of

"respective time frames grouped according to a respective common time cycle".

Teodorescu et al. teaches a frame based data transmission respective time frames grouped (124 local time base) according to a respective common time cycle (123 application time base) (See Fig. 12, Col. 11, lines 19-51).

A person of ordinary skill in the art would have been motivated to employ Teodorescu et al. in Tsukamoto et al. and Russell et al. in order to obtain respective time frames grouped according to a respective common time cycle in claims 1, 21, 27, 43 and 54.

The suggestion/motivation to do so would have been to take advantage of respective time frames grouped according to a respective common time base, as suggested by Teodorescu et al. in Col. 11, lines 19-51. At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine Teodorescu et al. with the Tsukamoto et al. and Russell et al. to obtain the inventions specified in claims 1, 21, 27, 43 and 54.

Regarding claims 4 and 45, as discussed above, these claims have limitation that is similar to those of claims 1 and 43 wherein the common cycles have a common duration, and thus it is rejected with the same rationale applied against claims 1 and 4 3 above.

Regarding claims 5, 23 and 46, as discussed above, these claims have limitation that is similar to those of claims 1, 21 and 43 wherein the common cycles for each of the channels are time offset relative to the respective common cycles for the other ones of the channels, and thus it is rejected with the same rationale applied against claims 1, 21 and 43 above.

Regarding claims 6-8 and 47-49, as discussed above, this claim has limitation that is similar to those of claims 3 and 43 wherein the common cycles for each of the channels are aligned relative to the CTR, and thus it is rejected with the same rationale applied against claims 3 and 43 above.

Regarding claims 9-10, 12, 29 and 50-53, as discussed above, these claims have limitation that is similar to those of claims 1, 27 and 43 wherein each of the time frames for the output channel is comprised of at least one sub-time frame and each of the input channel time frames is mapped into a respective one of the output channel sub-time frames, and thus it is rejected with the same rationale applied against claims 1, 27 and 43 above.

Regarding claims 13, 28 and 55, as discussed above, these claims have limitation that is similar to those of claims 1, 27 and 54 wherein the data units are at least one of a byte, a word, a packet, and an ATM cell, and thus it is rejected with the same rationale applied against claims 1, 27 and 54 above.

Regarding claim 17, as discussed above, these claims have limitation that is similar to those of claim 1 wherein the time stamps are derived responsive to the CTR, and thus it is rejected with the same rationale applied against claim 1 above.

Regarding claims 18, 26 and 42, as discussed above, these claims have limitation that is similar to those of claims 1, 21 and 31 wherein each of the input channels and output channels is at least a SONET optical channel: OC-1 to OC-192, and thus it is rejected with the same rationale applied against claims 1, 21 and 31 above.

Regarding claim 19-20, as discussed above, this claim has limitation that is similar to those of claim 1, and thus it is rejected with the same rationale applied against claim 1 above.

Regarding Claims 24-25, as discussed above, Tsukamoto et al. further teaches substantially all the claimed invention but did not disclose expressly the particular application involving limitations of

"the output channels from a first plurality of the grooming subsystems are coupled to the input channels of a first separate one of the grooming subsystems, to provide a first grooming output", and

the output channels from a second plurality of the grooming subsystems are coupled to the input channels of a second separate one of the grooming subsystems, to provide a second grooming output; wherein the system is further comprised of a third grooming subsystem, wherein the first and second grooming outputs are coupled to the input channels of the third grooming subsystem".

Russell et al. further teaches a frame based data transmission over a synchronous digital loop where the output channels from a first plurality of the subsystems (1005-1029) are coupled to the input channels of a first separate one of the subsystems (1044), to provide a first output and the output channels from a second plurality of the subsystems are coupled to the input channels of a second separate one of the subsystems, to provide a second output, wherein the system is further comprised of a third subsystem, wherein the first and second outputs are coupled to the input channels of the third subsystem (1077).(See Fig. 10, Col. 9, lines 47-63).

A person of ordinary skill in the art would have been motivated to employ Russell et al. in Tsukamoto et al. in order to obtain a cell switching function adapted for mapping of synchronous frames containing a plurality of input channels and one output channel and to take advantage of synchronous multiplexing with a frame based data transmission over a synchronous digital loop in claims 24-25.

The suggestion/motivation to do so would have been to take advantage of synchronous multiplexing with a frame based data transmission over a synchronous digital loop, as suggested by Russell et al. in Col. 9, lines 47-63. At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine Russell et al. with the Tsukamoto et al. to obtain the inventions specified in claims 24-25.

Regarding claims 31 and 56, as discussed above, Tsukamoto et al. further teach a demapping method of synchronous frames applicable to a plurality of output channels (11), and at least one input channel (7) comprising:

providing a Common Time Reference (Synchronous frame), dividing the CTR into a plurality of contiguous time frames (cell), wherein the time frames (cell) have a plurality of predefined time durations, and

mapping (8) for each respective one of the time frames from the respective input channel (7) to at least one time frame of at least one of the output channels (11) (See Fig. 2, Col. 5, lines 37-55).

Regarding claims 33 and 58, as discussed above, these claims have limitation that is similar to those of claims 31 and 56 herein the common cycles for each of the

channels are time offset relative to the respective common cycles for the other ones of the channels, and thus it is rejected with the same rationale applied against claims 31 and 56 above.

Regarding claims 34 and 59, as discussed above, these claims have limitation that is similar to those of claims 31 and 56 wherein the mapping reoccurs periodically for each of the common cycles, and thus it is rejected with the same rationale applied against claims 31 and 56 above.

Regarding claims 35 and 60, as discussed above, these claims have limitation that is similar to those of claims 31 and 56 wherein each of the time frames for the input channel is comprised of at least one sub-time frame and each of the input channel sub-time frames is mapped into at least one of the output channel time frames, and thus it is rejected with the same rationale applied against claims 31 and 56 above.

Regarding claims 36 and 61, as discussed above, these claims have limitation that is similar to those of claims 31 and 56 wherein each of the time frames for the output channels and the input channels is comprised of at least one sub-time frame and each of the input channel sub-time frames is mapped into one of the output channel sub-time frames, and thus it is rejected with the same rationale applied against claims 31 and 56 above.

Regarding claims 37 and 62, as discussed above, these claims have limitation that is similar to those of claims 31 and 56, and thus it is rejected with the same rationale applied against claims 31 and 56 above.

Regarding claims 38-40, as discussed above, these claims have limitation that is similar to those of claim 37 wherein the data units are at least one of a byte, a word, a packet, an ATM cell, thus with delimiters are provided between data units, and thus it is rejected with the same rationale applied against claim 37 above.

Regarding claim 41, as discussed above, these claims have limitation that is similar to those of claim 31 wherein a time stamp is associated with selected ones of the time frames, wherein the time stamp is derived responsive to the CTR, and thus it is rejected with the same rationale applied against claim 31 above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Chang whose telephone number is (571) 272-3129. The examiner can normally be reached on Monday - Friday from 8 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

rkc

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